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West Virginia University
Agricultural Experiment Station
MORGANTOWN, W. VA.

DEPARTMENT OF HORTICULTURE

A SECOND REPORT
ON THE
UNIVERSITY FARM GARDEN

Products of University Farm Garden Exhibited October 12th.

BY
ARTHUR L. DACY

The Bulletins and Reports of this Station will be mailed free to any citizen of West Virginia upon writen application. Address Director of Agricultural Experiment Station, Morgantown, W. Va.

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A Second Report on the University Farm Garden

By ARTHUR L. DACY.

In Circular 17* of this Station, the writer presented a report of the results secured in the University Farm Garden in 1913 and 1914. Another year's records being available it is deemed advisable to publish them at this time together with an average of the results obtained during the past three years.

The University Farm Garden as cultivated in 1915 occupied four and seven-tenths acres of land. Of this area, three acres in one block containing Plots 1 to 30 inclusive had been in garden vegetables in 1913 and 1914; six-tenths of an acre containing Plots 31 to 36 inclusive was in potatoes in 1914 and in sod in 1913; and one and one-tenth acres containing Plots 37 to 47 inclusive was a two-year-old strawberry bed which became available about the 4th of July.

The work was carried on in much the same way as in 1914, the garden being divided into tenth-acre plots, two adjoining plots, or one-fifth of an acre in some cases being planted to the same vegetable. As far as possible a companion or succession cropping plan, or both, was tried. With the exception of about $125.00 worth of carrots, parsnips, turnips, spinach and kale which was shipped to commission houses in Fairmont, Clarksburg and Grafton, all of the products of the garden were sold at wholesale to storekeepers in Morgantown. Accurate records were kept of the sales of each vegetable and of each plot so that the returns from both could be easily computed on an acre basis.

The season of 1915 was on the whole favorable for plant growth. Rainfall was abundant and very well distributed throughout the season. The temperature during the last week in May was abnormally low, and in consequence pole lima beans, peppers and eggplants suffered somewhat of a check.

The following table presents a condensed record of the 1915 garden from the standpoint of the different vegetables grown, giving the name of the variety, location, area planted, date of planting, date of first and last sale, the approximate yield, the approximate price at which it sold and the estimated returns per acre for each crop.†

*Circular 17—The University Farm Garden—A. L. Dacy, April, 1915.
†The actual sales from each crop are given in Column 4 of Table II.

TABLE I.—*A Detailed Record of Crops Grown in 1915.*

Name and Variety of Vegetable	No. of Plot	Area Planted (Acres)	Date of Planting	Date of First Sale	Date of Last Sale	Approximate Yield	Approximate Average Price	Estimated Gross Returns per Acre
BEANS—String								
Stringless Green-pod	18	.053	4-16	6-26	7-6	3.5 bu.	$1.18 per bu.	$ 78.30
S. G. Pod* & Round Pod Kidney Wax	21	.1	5-3	7-6	7-29	17. "	.86 " "	145.70
" " " " " " "	29	.042	6-8	7-29	8-10	8.5 "	.71 " "	143.57
" " " " " " "	3	.04	6-29	8-19	8-31	9.5 "	.69 " "	165.00
Refugee or 1000 to 1	39	.1	7-17	9-18	10-9	24.6 "	.88 " "	217.80
" " "	7 & 8	.2	7-27	9-22	10-11	27.7 "	1.01 " "	140.00
Giant Stringless Green Pod	17	.1	8-6	10-7	10-7	5.2 "	1.25 " "	65.50
" " " "	20	....	8-7	10-9	10-9	3. "	1.25 " "	.....
BEANS—Bush Lima								
Fordhook Bush Lima	13	.1	5-15-18	8-14	10-12	19. "	1.45 " "	275.30
BEANS—Pole Lima								
S. S. Large Flat Pole†	25	.1	5-18, 6-16	8-21	10-7	15.2 "	1.23 " "	187.90
BEETS								
Early Model and Detroit	17	.1	4-9	6-17	8-7	182 dz. bun. 8.75 bu.	.30 dz. bun. .60 per bu.	603.00
Crosby's Egyptian and Columbia	19	.1	6-19	8-17	10-14	27 dz. bun. 10 bu.	.21 dz. bun. .50 per bu.	105.80
CABBAGE								
Early J. Wakefield, Charleston Wakefield and Copenhagen Market	7 & 8	.2	4-8	6-29	7-20	2554 lbs.	.02 per lb.	249.15
Succession	32	.1	6-23	8-14	10-9	2290 "	.01 " "	228.00
Flat Dutch and Danish Ball Head	45	.1	7-9	10-26	11-26	1309 "	.01 " "	143.30
" " " " " "	40	.1	7-15	11-9	11-30	590 "	.008 " "	47.80

*In each case after the first appearance of the name of a variety, qualifying adjectives are abbreviated.

†S. S. appearing before a variety signifies Stokes Standard. The seeds planted in the garden (with few exceptions) were purchased from Stokes Seed Farms Co., Moorestown, N. J. and W. Atlee Burpee, Philadelphia, Pa.

CARROTS								
Danvers ½ Long, Oxheart and ½ Long Rubicon	10	.1	4-7	6-26	10-5	66 dz. bun. 10.5 bu.	.25 dz. bun. .50 per bu.	220.10
Danvers ½ Long	28	.1	5-4	9-23	11-30	15 bbls. 24.5 bu	1.50 " bbl. .75 " bu.	410.20
CAULIFLOWER								
Burpee's Best Early	20	.1	4-10	6-15	7-1	17 dz.	.88 " dz.	150.20
" " "	36	.085	7-2	9-11	11-13	50 "	1.135 " "	667.76
CORN—Sweet								
Extra Early Adams	4	.1	4-5	7-20	7-31	71.5 dz.	.30 " "	214.00
" " "	4	.054	4-14	7-31	8-14	29.3 "	.26 " "	140.74
E. E. Adams and Golden Bantam	2	.1	4-15-27	7-20	8-14	50.5 "	.189 " "	94.80
Early Mayflower, Early Fordhook, Kendel's Early Giant, S. S. Doubled Barreled Best, Seymour's Sweet Orange and Country Gentleman	26 & 27	.2	5-4	7-27	9-2	164.0 "	.102 " "	83.90
S. S. Double Barreled Best, Country Gentleman and White Evergreen	33 & 34	.2	6-4	8-31	9-15	104.3 "	.114 " "	59.95
White Evergreen	20	.1	7-5	.....	.....	No crop	.....	.....
Early Fordhook and K. Early Giant	37 & 38	.2	7-13	10-7	10-7	28.5 dz.	.137 " "	19.50
CUCUMBERS								
S. S. White Spine	18	.1	6-6-8	7-31	9-23	128.5 "	.187 " "	240.20
EGGPLANTS								
Black Beauty	14	.1	4-29	8-7	10-12	55.5 "	.657 " "	365.00
KALE								
Green Curled Scotch	46 & 47	.1	7-17-24	9-21	10-20	30 bu. 21 bbls.	.34 " bu. .82 " bbl.	268.00
" " "	26	.05	8-7	10-18	11-2	17 bu. 9 bbls.	.40 " bu. .75 " bbl.	268.00
" " "	29	.05	8-19	11-3	11-30	7 bu. 14 bbls.	.40 " bu. .75 " bbl.	266.00

TABLE I.—(*Continued*).

Name and Variety of Vegetable	No. of Plot	Area Planted (Acres)	Date of Planting	Date of First Sale	Date of Last Sale	Approximate Yield	Approximate Average Price	Estimated Gross Returns per Acre
KOHLRABI								
Early White Vienna	2	....	5-4	7-1	7-22	10.2 dz. bun.	.25 dz. bun.	.....
LETTUCE—Plants								
Grand Rapids	7 & 8	.174	4-9-15	5-22	5-29	160 lbs.	.09 per lb.	85.06
Black Seeded Simpson	11 & 12	.12	5-15-20	6-29	7-8	310 "	.02 " "	53.66
" " "	1	....	.....	10-11	10-11	30 "	.065 " "	.....
LETTUCE—Seed								
Black Seeded Simpson	14	.1	4-8	6-3	6-26	297 "	.054 " "	161.80
" " "	5 & 6	.09	7-10	9-14	9-23	390 "	.04 " "	173.33
ONIONS—From Sets								
Egyptian or Perennial Tree	1	.02	1914	5-4	5-22	61. dz. bun.	.237 per	724.50
White Bottom Sets	29	.033	1914	5-27	6-10	11.7 " "	.221 dz.	.....
" " "	3	.042	3-15	5-29	6-19	66.7 " "	.206 bun.	327.38
ONIONS—From Seed								
Prizetaker, Yellow Globe Danvers, Early Red, Australian Brown	16	.1	4-8	7-10	10-4	44 " "	.25 dz. bun.	
						31.5 bu.	.94 per bu.	407.60
PARSNIPS								
Hollow Crown	9	.1	4-9	9-30	10-28	28 bu.	.75 " bu.	
						4 bbls.	1.75 " bbl.	281.30
" "	15	.1	4-10	10-25	11-30	16 bu.	.75 " bu.	
						15 bbls.	1.75 " bbl.	382.50
PEAS								
Prolific Extra Early, Prolific Early Market, Record Extra Early, Extra Early Pilot, Little Marvel	5 & 6	.2	4-5	6-10	6-26	27 bu.	1.12 " bu.	151.75
Burpee's Best Extra Early, Blue Bantam and Harvester	1	.058	4-6-27	6-29	7-10	9 "	1.11 " "	172.93

PEPPERS								
Ruby King, Neapolitan, Ruby Giant, Chinese Giant	24	.1	5-15	7-15	10-14	234 dz. 29.5 bu. 4. bbls.	.08 per dz .51 " bu. 1.00 " bbl.	382.40
POTATOES—Irish								
Irish Cobbler	22 & 23	.2	4-18	8-5	.....	40. bu.	.50 " bu.	101.25
" "	43 & 44	.2	7-10-13	10-19	11-30	25.7 "	.52 " "	67.70
PUMPKINS								
S. S. Pie	4	.1	6-9	10-28	12-28	225 lbs.	.01 " lb.	22.50
RADISHES								
Scarlet Globe and Rapid Red	9	....	4-9	5-18	5-18	7. dz. bun.	.15 per	.....
" " " " "	12	....	4-8	5-18	5-24	9.5 " "	.188 dz.	.....
" " " " "	3	.02	8-23	9-30	10-23	29.5 " "	.167 bun.	245.50
SPINACH								
S. S. Long Season	4	.1	4-5	6-3	6-4	10.5 bu.	.65 per bu.	68.00
Norfolk Savoy Leaved	1	.039	4-6	5-29	6-1	1 bbl. 10.3 bu.	1.75 " bbl. .75 " bu.	243.59
" " "	5 & 6	.2	4-6	5-22	5-26	2 bbls. 37.2 bu.	2.00 " bbl. .75 " bu.	160.25
" " "	11	.1	4-8	6-5	6-5	8.5 "	.576 " "	49.00
Victoria	19	.1	4-16	6-8	6-12	1 bbl. 17 bu.	1.50 " bbl. .69 " bu.	132.50
Norfolk Savoy Leaved	18	.1	5-3	6-15	6-17	6 "	.483 " "	29.00
" " "	30	.1	5-4	6-12	6-22	1 bbl. 2 bu.	1.50 " bbl. .45 " bu.	24.00
" " "	5 & 6	.04	7-12-19	8-21	9-4	13 "	.684 " "	222.50
" " "	21	.08	8-3	9-13	9-28	2 bbls. 25 bu.	1.25 " bbl. .546 " bu	201.87
" " "	1	.029	8-19	10-5	10-22	1 bbl. 18 bu.	1.50 " bbl. .70 " bu.	465.51
" " "	2	.1	8-23	10-13	10-30	9 bbls. 36.5 bu.	1.25 " bbl. .735 " bu.	381.00

TABLE I.—(*Continued*).

Name and Variety of Vegetable	No. of Plot	Area Planted (Acres)	Date of Planting	Date of First Sale	Date of Last Sale	Approximate Yield	Approximate Average Price	Estimated Gross Returns per Acre
SPINACH—Continued.								
Norfolk Savoy Leaved	3	.02	8-23	11-1	11-1	2 bbls. 2 bu.	1.25 per bbl. .75 " bu.	200.00
" " "	22 & 23	.2	9-2	11-1	12-24	7 bbls. 49 bu.	1.25 " bbl. .75 " bu.	227.50
SQUASH								
White Bush, Fordhook, Delicious, Hubbard	35	.1	6-10-17	8-12	11-2	18 dz. 231 lbs. 1 bbl.	.32 " dz. .016 " lb. 1.25 " bbl.	106.90
TOMATOES								
Earliana, Chalk's Jewel, Bonny Best, John Baer, I X L, Greater Baltimore, My Maryland, and Sunrise	11 & 12	.2	5-14	7-1	9-18	4576 lbs.	.024 " lb.	564.40
Stone	31	.1	6-1	8-21	10-7	2158 "	.013 " "	284.40
Bonny Best	41 & 42	.2	7-13	10-9	11-6	600 "	.018 " "	56.55
TURNIPS								
Purple Top Strap Leaf and White Egg	46 & 47	.1	7-24	9-7	10-12	22.9 dz. bun. 3 bu. 4 bbls.	.24 " dz. .50 " bu. 1.50 " bbl.	129.80

NOTES ON TABLE I.

A few points of unusual interest regarding the crops grown may be presented briefly as follows, considering them in alphabetical order.

It will be noticed that the most profitable planting of beans was that of July 17th following the two-year-old strawberry bed. The poor showing of the pole lima beans was due to the fact already noted that the latter part of May was wet and cold, making it necessary to replant nearly the whole plot.

The decided difference between the spring and fall crop of cauliflower grown from the same lot of seed is worth emphasizing. This was largely due to the more favorable conditions at heading time afforded by the cool fall weather.

By far the most profitable planting of sweet corn was that of the Extra Early Adams variety on April 5th. While this is not a high quality variety it is of value to the market gardener because of its great hardiness, productiveness and early maturity. Coming as it does so early in the season it always brings a good price.

The variety test in Plots 26 and 27 which follows showed the Double Barreled Best to have been the most productive. This was confirmed by the results in Plots 33 and 34 in

Fig. I.—Plots 7 and 8. Cabbage with Lettuce Between.

which from six rows each of White Evergreen and Country Gentleman, the yield was 34⅙ and 31⅔ doz. respectively, while the five rows of Double Barreled Best produced 37 11-12 doz. In both cases the White Evergreen out-yielded the Country Gentleman. Apparently there was something wrong with the Kendel's Early Giant. It is listed by seedsmen as an early variety and was planted as such. It proved to be decidedly a mid-season sort in this test.

Variety Test of Sweet Corn—1915.

Dates of Harvesting	Variety, Seedsman and Yield						
	Early Mayflower Stokes (Ears)	Early Fordhook Burpee (Ears)	Seymour's Sweet Orange Burpee (Doz.)	Double Barreled Best Stokes (Doz.)	Kendel's Early Giant Burpee (Doz.)	White Evergreen Burpee (Doz.)	Country Gentleman Burpee (Doz.)
July 26	5						
July 28	5	9					
August 4	2	9					
August 9	10	56	2⅔				
August 11			1 11-12	1¼			
August 13			2	4½			
August 16			3½	2¾	5	3	
August 18			2	3⅚	4	3½	
August 20			¾	3⅔	1⅔	5¼	4⅚
August 23				4¼	1⅚	3⅔	2½
August 25				1⅓	½	1	2
August 27				2		1	1⅙
August 30						5-12	1
September 1						½	1
Total Yield (Doz.)	1⅚	6⅙	12⅚	23 7-12	13	18⅓	12½

The returns from sweet corn were exclusive of the value of the stover which of course is considerable to the farmer as it makes excellent feed for stock if used as soon as the marketable ears are sold.

Of the onions grown from seed in Plot 16 the Prizetaker out-yielded the other varieties.

All of the peas in Plots 5 and 6 having been planted on the same day, some information was afforded as to the relative earliness of the different varieties, which together with some data on the varieties planted in Plot 1, is presented as follows:

Variety Test of Peas—1915.

No. of Rows	Name of Variety	Date Planted	First Picking	Last Picking	Yield (Bu.)
5	Prolific Extra Early	4-5	6-14	6-25	8.75
5	*Prolific Early Market	4-5	6-21	6-23	4.5
4	*Record Extra Early	4-5	6-9	6-23	6.
4	*Little Marvell	4-5	6-21	6-25	5.
4	Extra Early Pilot	4-5	6-16	6-16	4.
2	Best Extra Early	4-27	6-28	6-28	2.
2	Blue Bantam	4-6	6-28	6-28	3.
2	*Harvester	4-6	7-5	7-9	3.75

*These varieties were purchased from Stokes Seed Farms, Moorestown, N. J. The others were purchased from W. Atlee Burpee & Co. of Philadelphia, Pa.

The Irish Cobbler potatoes planted in Plots 43 and 44 were planted from seed which was obtained from T. W. Wood & Sons of Richmond, Virginia. This firm and others in that part of the country place large quantities of northern grown seed of this variety in cold storage every year for growers who make a practice of planting it in July, using the product for seed the following spring. It should be possible for West Virginia farmers in the southern part of the state and in the lower altitudes elsewhere to follow this same practice to good advantage. In the instance noted a yield of approximately 125 bushels per acre of tubers suitable for seed was secured.

In Plot 12 a careful record was kept of the yield of one row each, of eight varieties of tomatoes, each row being 140 feet long. The following table presents the data of interest:

Variety Test of Tomatoes—1915.

Variety	Date of First Picking	Yield to Aug. 1st		Yield to Aug. 15th		Total Yield to Sept. 17th		Equivalent to Bu. per Acre of Merch.
		Merch. Lbs.	Culls Lbs.	Merch. Lbs.	Culls Lbs.	Merch. Lbs.	Culls Lbs.	
Earliana[1]	6-30	35	9¾	191½	51	472	172	786.6
I. X. L.[2]	7-21	18¾	3½	177¼	43½	384	123	640.
John Baer[2]	7-26	4½	2½	74	35¼	281½	142¾	469.1
Chalk's Jewel[3]	7-21	10¼	2½	138¼	34¾	340½	151¼	567.5
Bonny Best[1]	7-21	7¾	1⅜	130¾	27⅜	363¾	132⅞	606.2
Greater Balt.[2]	7-28	1¾	¾	24¼	17¾	291¼	98½	485.3
My Maryland[2]	7-26	2¼	¾	35¼	11¼	273¼	71¾	455.4
Sunrise[4]	7-21	None	4	None	33	None	348	580.[5]

[1] Seed bought from Stokes Seed Farms Co., Moorestown, N. J.
[2] Seed furnished by J. Bolgiano & Son, Baltimore, Md.
[3] Seed bought from W. Atlee Burpee & Co., Philadelphia, Pa.
[4] Seed bought from Carter's Tested Seeds, Inc., Boston, Mass.
[5] Culls.

In explanation of the table it should be stated that the plants of these varieties received the same treatment except that the row of Stoke's Earliana was transplanted from four inch pots to the field while the others were from flats in which the plants were set 2 x 2 inches. Carter's Sunrise produced an abundance of smooth, attractive fruit but all too small to be salable in our market.

A market gardener aims to have a constant supply of the different vegetables which he grows at the time when there is a demand for them. This result may be secured by planting at the same time several varieties which mature at different periods (see dates of picking peas and corn on pages 11 and 10), by making successive plantings of the same variety at intervals of from one to two weeks or by a combination of the two methods. An examination of the 5th and 6th columns in Table I shows, for example, that there was a constant supply of string beans from June 26th to August 10th. There was then a break of 9 days to August 19th and another break from August 31st to September 18th after which there was a constant supply until October 9th. Under some circumstances and with some crops these breaks in the supply would have meant a serious loss of trade for the gardener, but in this particular case they came at opportune times for from August 26th until September 16th—the period between the end of the Summer School and the opening day of the fall semester at the University—there are no students in Morgantown. This has a marked effect on the market for green vegetables.

Table II presents in condensed form a record of the 1915 garden from the standpoint of returns from the different plots. It gives the name of the variety, the date of planting, the number of days in which it occupied the plot, the actual receipts from the sale of each vegetable in each plot and the estimated gross returns per acre for each plot.

TABLE II.—*The Detailed Record of Each Plot—1915 Garden.*

No. of Plot	Crops Planted with Varieties and Dates of Planting	No. of Days Crop Occupied Plot	Actual Receipts from Each Crop	Estimated Returns per Acre for Plot	Remarks
5 & 6	Prolific Extra Early, Record Extra Early, Prolific Early Market, Little Marvel and Extra Early Pilot Peas, 4-5	82	$ 30.35		One-fifth acre in plot. 22 rows of peas with spinach between followed by 13 rows G. S. B. Celery and 17 rows of other celery with 8 rows of lettuce and 5 rows of spinach between the celery rows. 11 of the 17 rows of late celery were planted in a bed with plants set one foot by six inches apart. G. S. B. Celery returned $89.00; the late varieties $63.74. See Figs. III and IV.
	Norfolk Savoy Leaved Spinach, 4-6	57	32.05		
	Golden Self Blanching, Giant Pascal, Winter Queen & Fordhook Emperor Celery, 7-9-12	170	152.74		
	Norfolk Spinach, 7-12-19	54	8.90		
	Black Seeded Simpson Lettuce, 7-10-12	75	15.60	$1,198.20	
17	Early Model and Detroit Dark Red Beets, 4-9	120	60.30		All but 8¾ bu. of beets were sold as bunch beets.
	Giant Stringless Green Pod Beans, 8-6	62	6.55	668.50	
11 & 12	Earliana, I X L, John Baer, Chalk's Jewel, Bonny Best, Greater Baltimore, My Maryland, and Sunrise Tomatoes, 5-14-15	127	112.88		One-fifth acre in plot. 21 rows of tomatoes, with 9 rows of radishes and 10 of spinach between and with one head of lettuce transplanted from Plot 14 between each two tomato plants in 11 of the 21 rows. The tomatoes in Plot 11 were followed by cabbage plants, 10-15, to see if they would live over the winter.
	Norfolk Spinach, 4-8	58	4.90		
	Rapid Red and Scarlet Globe Radishes, 4-8	47	1.79		
	B. S. Simpson Lettuce, 5-15-20	54	5.34	624.55	
36	Burpee's Best Early Cauliflower, 7-2	134	56.76		11 rows of cauliflower and 2 of cabbage. Got a good stand of crimson clover for a cover crop in this plot.
	Perfection Drumhead Savoy Cabbage, 7-2		.70	574.60	

TABLE II.—(*Continued*).

No. of Plot	Crops Planted with Varieties and Dates of Planting	No. of Days Crop Occupied Plot	Actual Receipts from Each Crop	Estimated Returns per Acre for Plot	Remarks
14	Black Beauty Eggplant, 5-29	106	36.50		9 rows of lettuce seed sown 4-8 between what later were 10 rows of egg plant. Got a good stand of crimson clover on this plot.
	B. S. Simpson Lettuce, 4-8	79	16.80	526.80	
1	5 rows, Perennial Tree Onions, 1914	140*	14.49		This plot was used as a miscellaneous plot in which were planted some new or uncommon vegetables grown chiefly for illustrative purposes. One plant of lettuce was set between each two of Chinese cabbage. Even though no sales were made of several of the vegetables in this plot it is well up toward the head in gross returns, illustrating the value of keeping the ground busy throughout the season.
	2 rows, Blue Bantam Peas, 4-6,	83			
	2 rows, Harvester Peas, 4-6,	95			
	2 rows, Burpee's Best Extra Early Peas, 4-27	62	10.03		
	3 rows, Norfolk Spinach, 4-6	56	9.50		
	1 row, Swiss Chard, 4-27	.....	.....		
	1 row, Green Curled Endive, 4-27	.....	.....		
	1 row, Corn Salad, 4-27	.....	.....		
	2 rows, Witloof Chicory, 4-27	.....	.....		
	2 rows, G. C. Endive, 7-27	120	2.10		
	2 rows, Chinese Cabbage, 7-29	96	.45		
	1 row, Celeriac, 7-29	101	.25		
	1½ rows, Chinese Radish, 8-19	.....	.....		
	9 rows, N. S. L. Spinach, 8-19	64	13.50		
	B. S. Simpson Lettuce	.....	2.00	523.20	
2	Adams Early, Extra Early Adams Corn, 4-15 and Golden Bantam Corn, 4-27	121	9.48		4 rows of Golden Bantam, 1¼ rows Extra Early Adams and 3¾ rows Adams Early Corn. 4 rows of kohlrabi between corn. All followed by spinach.
	Early White Vienna Kohlrabi, 5-4	79	2.55		
	N. S. L. Spinach, 8-23	68	38.10	501.30	

*Number of days in 1915

7 & 8	Early Jersey Wakefield, Charleston Wakefield and Copenhagen Market Cabbage, 4-9	102	49.83		One-fifth acre in plot. 9, 11 and 11 rows of cabbage respectively with a head of lettuce between each two heads of cabbage in 27 rows; cabbage followed by beans. See Figs. I and II.
	Grand Rapids Lettuce, 4-9-15	50	14.80		
	Refugee or 1000 to 1 Beans, 7-27	76	28.00	463.15	
28	Danvers ½ Long Carrots, 5-4	210	41.02	410.20	
16	Prizetaker, Yellow Globe, Danvers, Early Red and Australian Brown Onions from seed, 4-8	179	40.76	407.60	9, 12, 5, and 4 rows of a variety respectively. $11.15 of the $40.76 was received from sales of bunch onions which were thinned out of this plot.
15	Hollow Crown Parsnips, 4-10	233	38.25	382.50	A much better stand was secured on this plot than on Plot 9.
24	Ruby King, Ruby Giant, Chinese Giant, and Neapolitan Peppers, 5-15	152	38.24	382.40	Got a good stand of crimson clover for a cover crop on this plot.
3	White Bottom Onion sets, 3-15	96	13.75		12 rows of onion sets and six rows of corn. Followed former with beans and latter with spinach and radishes.
	S. G. Pod and R. P. Kid. Wax Beans, 6-29	63	6.60		
	Scarlet Globe Radishes, 8-23	61	4.91		
	E. E. Adams Corn, 4-14	122	7.60		
	N. S. L. Spinach, 8-23	70	4.00	368.60	
22 & 23	Irish Cobbler Potatoes, 4-17-19	132	20.25		One-fifth acre in plot.
	N. S. L. Spinach, 9-3	112	45.50	328.75	
18	Stringless Green Pod Beans, 4-16	81	4.15		Marked out the plot for 7 rows of cucumbers 4 ft. apart. Planted one row of beans between and one row of spinach 1 ft. on each side of the cucumber row.
	N. S. L. Spinach, 5-3	45	2.90		
	S. S. White Spine Cucumbers, 6-6-8	109	24.03	310.80	
21	S. G. Pod and R. P. Kid. Wax Beans, 5-3	87	14.57		The plants for the celery crop were purchased from a New Jersey firm. They heated so badly in transit that what few were fit to plant did not mature.
	N. S. L. Spinach, 8-3	56	16.15		
	Giant Pascal Celery, 8-3	.....	.....	307.20	
4	E. E. Adams Corn, 4-5	91	21.40		11 rows of corn with 10 rows of spinach between. Pumpkins planted in proper spaces in corn.
	S. S. Long Season Spinach, 4-5	60	6.80		
	S. S. Pie Pumpkins, 6-29	141	2.25	304.50	

TABLE II.—(*Continued*).

No of Plot	Crops Planted with Varieties and Dates of Planting	No. of Days Crop Occupied Plot	Actual Receipts from Each Crop	Estimated Returns per Acre for Plot	Remarks
29	S. G. Pod and Round Pod Kidney Wax Beans, 6-8	63	6.03		5 and 3 rows respectively of each variety of beans followed by 11 rows of kale.
	Dwf. Curled Scotch Kale, 8-19	103	13.30		
	Onions from sets, 1914	161	2.60	292.40	
9	Hollow Crown Parsnips, 4-9	202	28.13		Radishes were sown with parsnip seed to mark the rows and assist seed in breaking through.
	Rapid Red Radishes, 4-9	39	1.07	292.00	
31	Stone Tomatoes, 6-1	128	28.40	284.00	Got a fair stand of crimson clover as a cover crop on this plot.
13	Fordhook Bush Lima Beans, 5-15-18	150	27.53	275.30	Got a good stand of crimson clover as a cover crop on this plot.
19	Victoria Spinach, 4-16	57	13.25		A poor stand of spinach.
	Crosby's Egyptian and Columbia Beets, 6-19	117	10.58	238.30	
32	Succession Cabbage, 6-23	108	22.80	228.00	Got a good stand of crimson clover as a cover crop on this plot.
10	Oxheart, S. S. Rubicon ½ Long & Danvers ½ Long Carrots, 4-7	181	22.01	220.10	Followed carrots with cabbage plants, 10-15, to see if they would live over the winter.
39	Refugee or 1000 to 1 Beans, 7-17	84	21.78	217.80	This planting followed a two-year-old strawberry bed. The most profitable planting of beans in the season.
46 & 47	Dwarf Curled Scotch Kale, 7-17 and 24	95	26.80		Half of each plot was in kale and half in turnips. One-fifth acre in the combined plots.
	Purple Top Strap Leaf Turnips, 7-24	80	12.98	198.90	

25	S. S. Large Flat Pole Lima Beans, 5-18 and 6-16	142	18.79	187.90	Had to replant nearly the whole plot. Got a good stand of crimson clover for a cover crop on this plot.
20	B. B. E. Cauliflower, 4-10	82	15.02		The corn did not mature before frost. An earlier maturing variety should have been used. Beans planted in corn rows.
	White Evergreen Corn, 7-5	.....	.....		
	Giant S. Green Pod Beans, 8-7	63	3.75	187.70	
26 & 27	Early Mayflower, Ea. Fordhook, Kendel's Ea. Giant, S. S. Double Barreled Best, Seymour's Sweet Orange, Country Gentleman and White Evergreen Corn, 5-4	*	16.78		3 rows of each variety of corn. The first two varieties were folowed with kale and a fine stand of crimson clover was secured for a cover crop on the balance of the plot.
	D. C. S. Kale, 8-7	87	13.40	150.90	
45	Flat Dutch and Danish Ballhead Cabbage, 7-9	140	14.33	143.30	This crop followed a two-year-old strawberry bed.
35	Mammoth White Bush, Fordhook, Delicious and Hubbard Squash, 6-10-17	145	10.69	106.90	
43 & 44	Irish Cobbler Potatoes, 7-10-13	101	13.54	67.70	Cold storage seed used.
33 & 34	S. S. D. B. Best, C. Gentleman and White Evergreen Corn, 6-4	102	11.99	59.95	Got a fine stand of crimson clover for a cover crop in the corn.
41 & 42	Bonny Best Tomatoes, 7-12-14	91	11.31	56.55	This crop followed a two-year-old strawberry bed.
40	Flat Dutch and Danish Ballhead Cabbage, 7-15	137	4.78	47.80	This crop followed a two-year-old strawberry bed.
30	Palmetto Asparagus, Spring of 1914	.....	.20		1 row of spinach between each 2 rows of asparagus.
	N. S. L. Spinach, 5-4	49	2.40	26.00	
37 & 38	E. Fordhook and K. E. Giant Corn, 7-13	86	3.90	19.50	K. E. Giant did not mature before frost.

*See variety test of corn, page 10, for dates of harvesting of each variety.

NOTES ON TABLE II.

It will be noticed that every one of the 47 plots in the garden except numbers 15, 16, 28, and 39, affords an illustration of either companion cropping, succession cropping, or improvement cropping by the use of a leguminous cover crop. In several instances two of these plans were used. The examples of each plan will be listed under its appropriate heading.

1.—Companion Cropping.

No. of Plot	Companion Crop	Panted with	Remarks
1	Lettuce plants	Chinese Cabbage	A good combination
7 & 8	" "	Cabbage	" " "
12	" "	Tomatoes	" " "
5 & 6	" seed	Celery	" " "
14	" "	Eggplant	" " "
1,5 & 6	Spinach	Peas	" " "
5 & 6	"	Celery	" " "
4	"	Sweet Corn	" " "
11	"	Tomatoes	" " "
18	"	Cucumbers	" " "
30	"	Asparagus	Not a good combination except the first year.
9	Radishes	Parsnips	A good combination.
12	"	Tomatoes	" " "
2	Kohlrabi	Sweet Corn	Kohlrabi should have been planted earlier.
18	String Beans	Cucumbers	A good combination.

FIG. II.—Same Plots as in FIG. I. Beans Following the Cabbage and Lettuce.

2.—Succession Cropping.

No. of Plot	Early Crop	Followed by	Remarks
1	Onion sets	Chinese Cabbage	With good results.
3	" "	String Beans	" " "
1	Peas	Celeriac, Endive and Winter Radishes	This plan worked out all right but not much sale for these vegetables.
4 & 5	"	Celery, Lettuce and Spinach	Gave largest gross returns of all.
2 & 3	Sweet Corn	Spinach	With good results.
3	" "	Radishes	" " "
26	" "	Kale	" " "
4	" "	Pumpkins	With poor results this year. Good results in 1914.
7 & 8	Cabbage	String Beans	With good results.
10	Carrots	Fall Planted Cabbage	As an experiment. Cabbage all winter killed.
11	Tomatoes	Fall Planted Cabbage	As an experiment. Cabbage all winter killed.
17	Beets	String Beans	A good plan if beets are sold promptly.
19	Spinach	Beets	With good results.
20	Cauliflower	Corn and Beans	Should work well if early variety of corn is planted.
21	String Beans	Spinach	With good results.
22 & 23	Early Irish Potatoes	"	One of the best combinations in two year's trial.
29	String Beans	Kale	With good results.
38	Old Strawberry Bed	Sweet Corn	All right if early variety of corn is planted.
39	" " "	String Beans	With splendid results.
40	" " "	Cabbage	Cabbage should be planted promptly.
41 & 42	" " "	Tomatoes	With fair results. Must have plants well started.
43 & 44	" " "	Irish Potatoes	With fair results. Use only early variety of potatoes.
45	" " "	Cabbage	With fair results.
46 & 47	" " "	Turnips & Kale	With good results.

FIG. III.—Plots 4 and 5. Celery and Lettuce Following Peas and Spinach.

3.—Improvement Cropping.

In Plots 13, 14, 24, 25, 26, 27, 31, 32, 33, 34, and 36 containing bush lima beans, eggplants, peppers, pole lima beans, sweet corn, tomatoes, cabbage, and cauliflower respectively, good stands of crimson clover, to be plowed under next spring, were secured from seed sown the last week in July.

Number of Days the Land was Occupied by Various Crops.

The third column which gives the number of days intervening between the date of planting and last sale will be helpful in making companion and succession cropping plans. The number of days given in some instances is larger than would be necessary where the entire crop may be removed as soon as it reaches maturity. This was impossible here because of the limited demands of our market. The most striking examples of this point are the beets in Plots 17 and 19, the carrots in Plot 10, also in the plots of parsnips, kale, spinach, potatoes, carrots, etc., which matured late in the fall. An examination of the date of the first sale as given in the fifth column of Table I will show when the crop might all have been removed in such cases had the market been large enough to absorb the total product quickly.

FIG. IV.—Same Plots as in FIG. III. Lettuce Ready to Cut.

Gross Returns from Different Areas.

A summary of the three different areas into which the garden may be divided is of interest. From the three-acre block, containing Plots 1 to 30 inclusive, which had been in vegetables the longest, the total sales were $1,183.77, or at an average rate of $398.57 per acre. From the block of .6 acres, containing Plots 31 to 36 inclusive, the total receipts were $131.34, or at the rate of $218.90 per acre. From the 1.1 acres following the two-year-old strawberry bed, containing Plots 37 to 47 inclusive, the total receipts were $109.42, or at the average rate of $99.47 per acre. The total sales from the whole garden were $1,467.99 or at the rate of $312.33 per acre. It is interesting to note at this point that the average returns per acre for the season of 1913 were $267.04 and 1914 $247.09 per acre. The average gross receipts from the garden in 1913, 1914 and 1915 were $275.48 per acre. The difference between the receipts in the three years was due in part to the varying range of prices from year to year, the kind of a season and the difference in the quality of the land which was farmed.

A SUMMARY OF RESULTS IN 1913, 1914 AND 1915.

A summary of the returns from each crop in 1915 together with the average yield per acre and the average returns per acre for the last three years is given in Table III.

TABLE III.—*A Summary of Yields and Returns in 1913, 1914, and 1915.*

Relative Rank of Crops in Gross Returns, 1913-1915	Name of Crop	Yield per Acre in 1915	Av. Yield per Acre, 1913-15	Av. Gross Returns per Acre in 1915	Av. Gross Returns per Acre, 1913-15
17	Beans—string, green and wax	151 bu.	192 bu.	$138.07	$177.00
16	Beans—pole and bush limas	171 bu.	138 bu.	231.60	208.63
12	Beets	93.5 bu. 1045 dz. bun.	*	354.40	257.13
10	Cabbage—early and late	15382 lbs.	14864 lbs.	206.82	273.44
13	Carrots	‡	*	315.15	252.97
1	Celery	2040 dz.	1598 dz.	763.70	533.22
22	Corn—sweet	620 dz.	621 dz.	118.68	94.59
19	Cucumbers	1285 dz.	670 dz.	240.30	128.61
2	Eggplant	555 dz.	888 dz.	365.00	462.73
8	Kale	823 bu.	791 bu.	267.33	369.56
5	Lettuce	9274 lbs.	*	440.00§	378.83§
6	Onions from sets	1468 dz. bun.	1175 dz. bun.	525.95	370.95
14	Onions from seed	440 dz. bun. 315 bu.	233 dz. bun. 175 bu.	407.60	229.70
23	Peas	146 bu.	71 bu.	162.39	91.23
7	Peppers	234 dz. 29½ bu. 4 bbls.	*	382.40	370.71
9	Spinach	428 bu.	*	282.80§	288.48§
4	Tomatoes—early and late	370 bu.	296 bu.	424.40	405.66
	Crops Grown but Two Years.				
3	Cauliflower	8264 lbs.	8145 lbs.	408.98	433.24
11	Parsnips	457 bu.	366 bu.	331.90	269.39
18	Potatoes—Irish	200 bu.	215 bu.	101.25	154.88
24	Pumpkins	2250 lbs.	2605 lbs.	22.50	46.80
15	Radishes	1475 dz. bun.	1252 dz. bun.	245.50	210.75
20	Squashes	180 dz. 3310 lbs.	†	106.90	124.00
21	Turnips	228 dz. bun. 40 bbls. 30 bu.	*	129.80	118.40

*See Table IV, Circular 17, for yields of 1913, 1914.
‡See Table I.
§These figures are estimated returns, assuming that the spinach and lettuce were planted in a solid block with rows one foot apart.
†See Table II, Circular 17, for yields of 1914.